

- Microorganisms / Virus**Coronavirus can persist for months after traversing entire body: Study****Pathogen is capable of replicating in human cells beyond respiratory tract, say scientists**

Business Standard · 27 Dec 2021 · 8

The coronavirus that causes Covid-19, SARS-COV-2, can spread within days from the airways to the heart, brain and almost every organ system in the body, where it may persist for months, a study found.

In what they describe as the most comprehensive analysis to date of the virus's distribution and persistence in the body and brain, scientists at the US National Institutes of Health said they found the pathogen is capable of replicating in human cells well beyond the respiratory tract.

The results, released online on Saturday in a manuscript under review for publication in the journal Nature, point to delayed viral clearance as a potential contributor to the persistent symptoms wracking so-called long Covid sufferers. Understanding the mechanisms by which the virus persists, along with the body's response to any viral reservoir, promises to help improve care for those afflicted, the authors said.

"This is remarkably important work," said Ziyad Al-aly, director of the clinical epidemiology center at the Veterans Affairs St Louis Health Care System in Missouri, who has led separate studies into the long-term effects of Covid-19.

"For a long time now, we have been scratching our heads and asking why long Covid seems to affect so many organ systems. This paper sheds some light, and may help explain why long Covid can occur even in people who had mild or asymptomatic acute disease."

The findings haven't yet been reviewed by independent scientists, and are mostly based on data gathered from fatal Covid cases, not patients with long Covid or "post-acute sequelae of SARS-COV-2," as it's also called.

Contentious findings

The coronavirus' propensity to infect cells outside the airways and lungs is contested, with numerous studies providing evidence for and against the possibility. The research undertaken at the NIH in Bethesda, Maryland, is based

on extensive sampling and analysis of tissues taken during autopsies on 44 patients who died after contracting the coronavirus during the first year of the pandemic in the US. The burden of infection

outside the respiratory tract and time to viral clearance isn't well characterised, particularly in the brain, wrote Daniel Chertow, who runs the NIH'S emerging pathogens section, and his colleagues.